Chesapeake Bay Program
A Watershed Partnership

www.chesapeakebay.net

Backgrounder

410 Severn Avenue, Suite 109 • Annapolis, Maryland 21403 • 410-267-5700 • toll free 800-YOUR-BAY

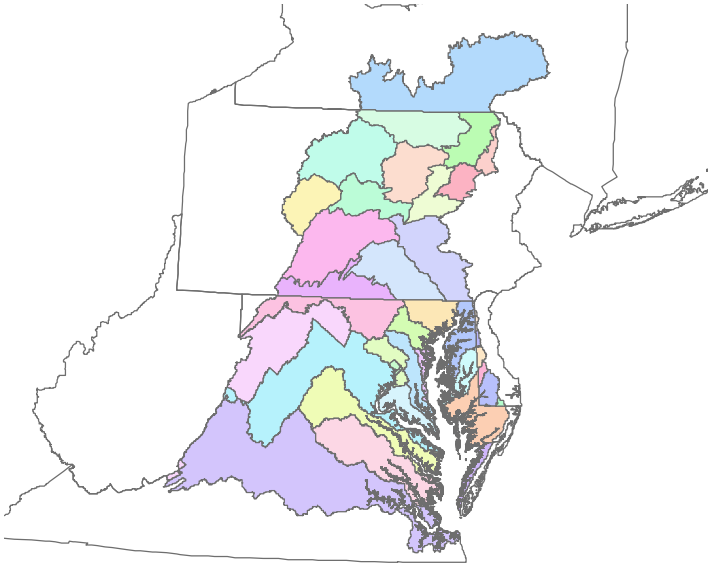
Tributary Strategies are river-specific cleanup strategies that detail the "on-the-ground" actions needed to reduce the amount of nutrients and sediment flowing into the Chesapeake Bay. They are a framework that will evolve over time to chart the most efficient and effective course to a clean Chesapeake Bay.

When all 36 strategies are added together, cleanup plans will be in place in every part of the Chesapeake Bay's 64,000 square-mile watershed. And for the first time, the strategies will aim to reduce nutrient and sediment pollution coming from the Bay's headwaters in Delaware, New York and West Virginia.

Since the signing of the *Chesapeake 2000* agreement, the Bay states have worked with the federal government to develop the scientific understanding needed to restore Chesapeake Bay water quality to levels where the Bay's living resources can thrive. This effort called on the expertise of researchers and policy makers from the six Bay states, the District of Columbia and the federal government.

What are Tributary Strategies?

About three-quarters of the pollution flowing into the Chesapeake Bay comes from "nonpoint sources." Water flowing across city streets, suburban lawns and rural farms picks up pollution and carries it into small creeks and streams that feed the Bay. The challenge to reducing this type of pollution is staggering because it can't be tracked back to a specific source like a particular sewage treatment plant or industrial facility.



To accelerate the protection and restoration of the Bay watershed, Chesapeake Bay Program partners are developing 36 river-specific cleanup strategies that cover all 64,000 square miles in the basin.

To tackle this complex problem, Tributary Strategies aim to reduce nutrient and sediment pollution coming from nonpoint and point sources – and they are designed to work on a watershed-by-watershed basis. The strategies will aim to reduce pollution coming from land, air and point sources.

The strategies are developed independently by each Bay state and focus on reducing nutrient and sediment pollution in each sub-watershed that flows into the Chesapeake Bay. For major Bay tributaries that drain from land in multiple states, such as the Potomac or Susquehanna Rivers, each state develops a plan for their part of the watershed. These strategies are then added together to insure that the required nutrient and sediment reductions are accounted for in each river basin.

The pollutant reduction goals, or allocations, were cooperatively developed and adopted by the Bay states in April 2003 and are based on the specific water quality needs of the Bay's plants and animals. Annual allocations for the amount of nitrogen, phosphorus and sediment loads were set for the entire watershed and then subdivided into nine major river basins. Those allocations were then further subdivided by political boundaries, providing each of the Bay states and the District with a target allocation for each watershed in their jurisdiction.

-more-

Stakeholder Involvement: Working Together to Reduce Bay Pollution

Reaching the ambitious nutrient reduction goals needed to restore the Bay will not be easy. It will likely require changes in the way we manage our land and live our lives. With more than 16 million people living and working in the Bay watershed, our personal impact on water quality takes a significant toll on the quality of local waters.

In developing the strategies, Bay Program partners worked with farmers, local governments, urban planners, resource managers, conservation organizations and civic groups. Because many of these plans have the support of those who will implement them, Bay restoration leaders hope to be able to accelerate the implementation of the pollution reduction programs needed to improve water quality locally and downstream.

Even with extensive stakeholder involvement, some practices and implementation levels included in the current strategies will require some stakeholder groups to do more than they are currently willing. This increased implementation level, however, is critical to meeting the ambitious pollution reductions needed for a healthy Bay.

Tributary Strategies: Blueprints for a Restored Bay

Each jurisdiction's plans tackle nutrient and sediment pollution in the most efficient way possible for that part of the Bay watershed. There is no "one-size-fits-all" strategy for the entire Bay watershed. Each tributary-specific strategy is designed to address the unique land-use characteristics of that watershed. Pollution reduction actions needed in rural watersheds, for example, vary greatly from those needed in more urban areas. Regardless of the type of watershed, however, every strategy is based on a specific nitrogen, phosphorus and sediment allocation.

Many rural Tributary Strategies rely heavily on working with farmers to reduce the amount of nutrients and sediment flowing from cropland and pasture. Baywide, about 42 percent of annual nitrogen loads comes from agriculture. Many strategies reduce pollutant loads by relying on a few key “best management practices” (BMPs) which can include:

Cover Crops reduce erosion and the leaching of nutrients to groundwater by maintaining a vegetative cover on cropland. This practice involves seeding cereal crops into recently harvested cropland with little disturbance of the surface soil. As they grow, the new crops capture or “trap” nitrogen and prevent it from reaching local streams and the Bay.

Enhanced Nutrient Management or “Yield Reserve” is a reduction in nitrogen applied to cropland beyond the nutrient management recommendation. Based on research, the nutrient management rates of nitrogen application are set approximately 35 percent higher than what a crop needs to ensure nitrogen availability under optimal growing conditions. In a yield reserve program, the farmer would reduce the nitrogen application by 15 percent. An incentive or crop insurance is used to cover the farmer’s risk of yield loss.

Conservation Tillage involves planting and growing crops with minimal disturbance of the surface soil. This practice reduces nutrient and sediment runoff by leaving residue from the previous crop on the land and minimizing erosion.

Forest or Riparian Buffers are wooded areas along rivers, streams and shorelines that help filter nutrients, sediments and other pollutants from runoff. In some areas of the Bay watershed, buffers can reduce nutrient and sediment pollution by 70 percent.

Reducing pollution from urban areas is equally critical to restoring the Bay. Tributary Strategies will call on many municipalities to upgrade sewage treatment plants to reduce the amount of nitrogen reaching local waters. Baywide, sewage treatment plants contribute 19 percent of the total nitrogen flowing into the Bay each year. Additionally, urban areas that contain a large amount of impervious land – where water cannot be naturally filtered by penetrating into the ground – storm water management techniques will aim to reduce pollutants carried by storm drains into local streams. Urban management practices can include:

Enhanced Nutrient Removal (ENR) *uses* new technologies to further reduce the amount of nutrients flowing from sewage treatment plants, which can result in rapid improvements in local water quality.

Low-impact Development Practices **(LID)** include a variety of techniques including rain gardens, rain barrels, roof gardens and down spout (gutter) disconnects. These practices improve water quality in local streams and the Bay by filtering pollutants into natural areas and minimizing erosion and storm water flow.

Erosion and Sediment Control Practices, such as silt fences, protect local streams from sediment pollution and increases in runoff associated with land development activities. By retaining soil on-site, sediment and attached nutrients are prevented from leaving disturbed areas and polluting streams.

Septic System Upgrades will reduce the amount of nitrogen flowing into the Bay. By retrofitting or replacing traditional septic systems with more advanced denitrification systems – or connecting existing septic systems to a wastewater treatment plant – annual nitrogen loads to the Bay can be decreased.

Funding Tributary Strategies

Recent estimates place the cost of improving Chesapeake Bay water quality at approximately $11.5 billion. However, the cost of failing to do so is far greater.

In March 2004, the Chesapeake Executive Council convened the Chesapeake Bay Watershed Blue Ribbon Finance Panel to develop innovative solutions to securing the billions of dollars needed to implement Tributary Strategies watershedwide. The Strategies will provide the Panel the best estimate to date of the on-the-ground actions needed to restore the Bay. The Panel will present its recommendations in October 2004.

Tributary Strategies: An Impetus for Change

Tributary Strategies provide a framework that will evolve over time to chart the most efficient and effective course to a clean Bay. As they mature, the strategies will detail what funding initiatives are needed, what policies must be implemented and what technologies need to be developed to expedite Bay restoration. As technology improves, new innovations will be incorporated into the existing plans, allowing Bay Program partners to find new ways to reduce our collective impact on the Bay.

The Strategies show us the incredible magnitude of the actions needed to bring the Bay back into balance. Their ultimate success relies on everyone in the watershed showing the collective social and political will to put these plans into practice and do what is needed to bring back the Bay.

For additional information about restoring the Chesapeake Bay, visit www.chesapeakebay.net